

<b>Fisher Engineering</b>	)	<b>DEPARTMENTAL</b>
<b>Knox County</b>	)	<b>FINDINGS OF FACT AND ORDER</b>
<b>Rockland, Maine</b>	)	<b>AIR EMISSION LICENSE</b>
<b>A-727-71-G-R</b>	)	

After review of the air emissions license application, staff investigation reports and other documents in the applicant's file in the Bureau of Air Quality, pursuant to 38 M.R.S.A., Section 344 and Section 590, the Department finds the following facts:

**I. REGISTRATION**

**A. Introduction**

Fisher Engineering (Fisher) of Rockland, Maine has applied for a renewal Air Emission License, permitting the operation of emission sources associated with their steel fabrication and coating facility.

**B. Emission Equipment**

Fisher is authorized to operate the following air emission units:

**Fuel Burning Equipment**

Equipment	Maximum Capacity (MMBtu/hr)	Fuel Type, % Sulfur	Maximum Firing Rate (gal/hr)
Boiler #1	1.5	Propane	13.7
Boiler #2	1.5	Propane	13.7
Boiler #3	1.5	Propane	13.7
Boiler #4	1.5	Propane	13.7
Boiler #5	1.5	Propane	13.7
Preheat Oven	3.2	Propane	31.5
Cure Oven	3.2	Propane	31.5
Washer #1 (with heater)	2.4	Propane	23.5

Fisher operates several small propane-fired heating units of less than 0.5 MMBtu/hr each for building heat and hot water. Fisher has submitted a list of these units to the Department and are considered insignificant according to Chapter 115 of the Department's rules.

### **Process Equipment**

- Steel Shot Blast Unit with Dust Collector
- Spray Booth with filter
- Powder Coating Spray Booths with Filters
- Safety-Kleen Degreasers (3)

#### **C. Application Classification**

The application for Fisher does not include the licensing of increased emissions or the installation of new or modified equipment. Therefore, the license is considered to be a renewal of current licensed emission units only.

## **II. BEST PRACTICAL TREATMENT (BPT)**

#### **A. Introduction**

In order to receive a license the applicant must control emissions from each unit to a level considered by the Department to represent best practical treatment (BPT), as defined in Chapter 100 of the Air Regulations. Separate control requirement categories exist for new and existing equipment as well as for those sources located in designated non-attainment areas. Descriptions of the applicable requirements are provided below under the appropriate headings.

Before proceeding with the control requirements for each unit a general process description is provided to identify where the equipment fits into the process.

### **Process Description**

Fisher Engineering is a manufacturer of steel snowplows and associated attachments for 4x4 vehicles as well as state and town owned vehicles. Finished plows range from 6.5 feet to 10 feet wide.

Fisher processes 1/4" - 5/16" steel raw material in various forming machinery (cutting, bending, and stamping) to make the plow blade and it's attachments. All scrap waste steel from this process is collected and sent for recycling. Water is removed from the scraps using an *evaporator* rated at 0.1 MMBtu/hr and fired with propane.

Once the steel is formed into the pieces, the individual pieces are welded together to form the plow. The plow is sent through an automated *shot blast line* to create a smooth

surface for coating. Emissions from shot blasting vent to a *dust collection unit*, the dust collector vents indoors.

After the plow is shot blasted, some parts need to go into the spray booth for coating. This spray booth is a source of process VOC emissions. All other coating has been converted from liquid to powder coating. The *powder coating line* is also an automated conveyor system. The first step in the powder coating process is preheating. This heating aids in the powder curing process. Fisher operates one 3.2 MMBtu/hr propane fired *preheat oven*.

From the preheat process, the second step is to convey the plows into the *coating booths*. Powder coating is sprayed manually onto the plows using high-pressure air guns. The coating booths impart either a yellow, black, or sometimes red coating. The booths are enclosed and equipped with filters to control particulate emissions.

Thirdly, the coating must be cured. Fisher operates one 3.2 MMBtu/hr propane fired *powder coating cure oven*. There is a one-hour residence time in the cure oven.

Fisher operates one 0.78 MMBtu/hr propane fired *burn off incinerator* to burn residual paint off of the hooks that hold the pieces while they are being cured.

The parts are then allowed to cool, and Fisher logo stickers are affixed. The finished plows are stored until they are shipped to retail stores.

Additionally, Fisher operates two propane fired air make-up heaters rated at 4.125 and 3.3 MMBtu/hr and Fisher maintains two 20 gallon and one 40 gallon safety - kleen degreaser units.

## B. Existing Emission Units

BPT for existing emissions equipment means that method which controls or reduces emissions to the lowest possible level considering:

- the existing state of technology;
- the effectiveness of available alternatives for reducing emissions from the source being considered; and
- the economic feasibility for the tpy of establishment involved.

### 1. Air Make-up Heaters

Fisher operates five propane fired Air Make-up Heaters each with a maximum design capacity rating of 1.5 MMBtu/hr. The regulated pollutants emitted from

the make-up air heaters are particulate matter (PM), particulate matter with a diameter smaller than ten microns (PM<sub>10</sub>), sulfur dioxide (SO<sub>2</sub>), nitrogen oxides (NO<sub>x</sub>), carbon monoxide (CO), and volatile organic compounds (VOC). Based on the relatively small size of Air Make-up Heaters 1 and 2, and the quantity of pollutants that could potentially be emitted, it is determined by the Bureau of Air Quality that any add on pollution control device would be economically unjustified. BPT for these five units will be the use of propane which emits less pollutants when compared to the combustion of other traditional fossil fuels. Overall propane use for the facility is limited to 435,000 gallons per year based on a 12 month rolling total.

a. PM and PM<sub>10</sub>

Fisher has proposed combustion of clean fuels and good combustion practices as BPT for particulate matter.

Chapter 103 of the Department's regulations is applicable to Fisher, therefore the BPT emission limit of 0.12 lb/MMBtu meets this regulation. Compliance with the BPT limit is compliance with Chapter 103.

b. SO<sub>2</sub>

Fisher has proposed combustion of natural gas, which inherently has a low sulfur fuel content associated with it, as BPT. Fisher shall keep fuel records for compliance with applicable fuel use limits.

c. NO<sub>x</sub>

Fisher has proposed combustion of clean fuels and good combustion practices as BPT for NO<sub>x</sub>.

d. CO

Fisher has proposed combustion of clean fuels and good combustion practices as BPT for CO.

e. VOC

Fisher has proposed combustion of clean fuels and good combustion practices as BPT for VOC.

f. Opacity

Chapter 101 of the Department's regulations (Visible Emissions) is applicable to Fisher. Visible Emissions shall not exceed 10% opacity on a six minute block average basis, except for no more than one (1) six (6) minute block average in a 3-hour period.

### **Periodic Monitoring**

Recordkeeping of fuel oil use in the make-up air heaters on a monthly basis.

#### **2. Preheat Oven**

Fisher operates one 3.2 MMBtu/hr propane fired preheat oven.

Based on the relatively small size of the preheat oven, and the quantity of pollutants that could potentially be emitted, it is determined by the Bureau of Air Quality that any add on pollution control device would be economically unjustified.

Therefore, BPT for the preheat oven shall be the firing of propane as fuel, with an overall facility limit of 435,000 gallons per year of propane (12 month rolling total basis).

##### **a. PM and PM<sub>10</sub>**

Fisher has proposed combustion of clean fuels and good combustion practices as BPT for particulate matter.

Chapter 103 of the Department's regulations is applicable to Fisher, therefore the BPT emission limit of 0.12 lb/MMBtu meets this regulation. Compliance with the BPT limit is compliance with Chapter 103.

##### **b. SO<sub>2</sub>**

Fisher has proposed combustion of natural gas, which inherently has a low sulfur fuel content associated with it, as BPT. Fisher shall keep fuel records for compliance with applicable fuel use limits.

##### **c. NO<sub>x</sub>**

Fisher has proposed combustion of clean fuels and good combustion practices as BPT for NO<sub>x</sub>.

##### **d. CO**

Fisher has proposed combustion of clean fuels and good combustion practices as BPT for CO.

##### **e. VOC**

Fisher has proposed combustion of clean fuels and good combustion practices as BPT for VOC.

f. Opacity

Chapter 101 of the Department's regulations (Visible Emissions) is applicable to Fisher. Visible Emissions shall not exceed 10% opacity on a six minute block average basis, except for no more than one (1) six (6) minute block average in a 3-hour period.

**Periodic Monitoring**

Periodic monitoring for the pre-heat oven includes maintaining records of fuel oil use in the make-up air heaters on a monthly basis.

3. Cure Oven

Fisher operates one 3.2 MMBtu/hr propane fired cure oven.

Based on the relatively small size of the cure oven, and the quantity of pollutants that could potentially be emitted, it is determined by the Bureau of Air Quality that any add on pollution control device would be economically unjustified.

Therefore, BPT for the cure oven shall be the firing of propane as fuel, with an overall facility limit of 435,000 gallons per year of propane (12 month rolling total basis).

**Periodic Monitoring**

Periodic monitoring for the pre-heat oven includes maintaining records of fuel oil use in the make-up air heaters on a monthly basis.

4. Wash System

Fisher operates a pre-treatment wash system with 8 stages. The wash system is used to clean the metal parts in preparation for final paints and coating applications. Fisher has found that after the plows have been sandblasted, a dust film is usually present. The wash system is used to remove this dust and further clean the plow before it goes to the next stage of powder coating. The adhesion of the powder coating is enhanced if the wash system cleans the plows after the sandblasting. The wash system with 8 cleaning stages is equipped with a 2.3 MMBtu/hr heater. The cleaning solutions used in the wash system consist of low concentrations, with chemical to water ratios less than 2%. Due to the amount of chemicals used, VOC emissions are expected to be small. The current 9.9 tons

per year facility VOC emission limit will include any VOC emissions from this system. BPT is the use of low chemical concentration cleaners and complying with the facility VOC limit.

### **Periodic Monitoring**

Periodic monitoring for the wash system includes maintaining records of fuel oil use in the propane heater on a monthly basis. Also Fisher will keep records of the quantity of chemical usage used in the wash system and keep track of VOC emissions on a monthly basis and 12-month rolling total, to ensure compliance with the 9.9 ton per year facility-wide VOC limit.

#### **5. Shot Blast**

Fisher operates a steel shot blast unit for surface preparation prior to coating. Fisher operates a dust collection system on this unit. The dust collection system vents indoors, therefore, there are no associated fugitive emissions for this process.

BPT for the steel shot blast unit is the continued operation and maintenance of the dust collections system.

#### **6. Spray Booth**

Fisher has one spray booth in operation used for parts that can not be power coated. The spray booth has HEPA filtration that will capture 99% of the particulate generated in the spraying operation. Total VOC emissions from the spray booth will be less than 6 tons per year. BPT will be the use and maintenance of the filter to reduce particulate and documenting paint usage to show compliance with the 6 tpy VOC emission limit. Fisher shall maintain monthly records of amount of paints, coating, and solvent used in the spray booth and track VOC emissions on a monthly basis, to ensure compliance with the above limits.

### **Periodic Monitoring**

Periodic monitoring for the spray booth consists of maintaining records of the VOC content of paints/coatings utilized, the amount of paints used, and the amount of VOC emissions on a monthly basis and 12-month rolling total basis.

7. Powder Coating Booths

Fisher operates enclosed powder coating booths with filters. There are no fugitive emissions associated with this process.

8. Safety - Kleen Degreasers

Fisher operates three safety- kleen degreasers. The capacities are two at 20 gallons each and one at 40 gallons. Fisher maintains covers and labels on the safety-kleen units and meets the requirements of Chapter 130 of the Department's regulations. Compliance with the cover, labeling requirements, and Chapter 130 for the degreasing units shall be considered BPT.

C. Facility Emissions and Fuel Use Caps

Fisher shall not exceed the use of 435,000 gallons per year (12 month rolling total) of propane fuel to be used in make-up air heaters, the preheat oven, and the cure oven. Fisher shall maintain monthly fuel use records to document compliance with this limit.

**Total Allowable Annual Emissions for the Facility**  
(used to calculate the annual license fee)

<b>Pollutant</b>	<b>Tons/year</b>
PM	0.1
PM <sub>10</sub>	0.1
SO <sub>2</sub>	0.3
NO <sub>x</sub>	2.7
CO	0.7
VOC	9.9

**III. AMBIENT AIR QUALITY ANALYSIS**

According to the Maine Regulations Chapter 115, the level of air quality analyses required for a minor existing source shall be determined on a case-by-case basis. Based on the information available in the file, and the similarity to existing sources, Maine Ambient Air Quality Standards (MAAQS) will not be violated by this source.



**Fisher Engineering  
Knox County  
Rockland, Maine  
A-727-71-G-R**

) **DEPARTMENTAL**  
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### **ORDER**

Based on the above Findings and subject to conditions listed below the Department concludes that the emissions from this source:

- will receive Best Practical Treatment,
- will not violate applicable emission standards,
- will not violate applicable ambient air quality standards in conjunction with emissions from other sources.

The Department hereby grants Air Emission License A-727-71-G-R, subject to the following conditions:

- (1) Employees and authorized representatives of the Department shall be allowed access to the licensee's premises during business hours, or any time during which any emissions units are in operation, and at such other times as the Department deems necessary for the purpose of performing tests, collecting samples, conducting inspections, or examining and copying records relating to emissions (Title 38 MRSA §347-C).
- (2) The licensee shall acquire a new or amended air emission license prior to commencing construction of a modification, unless specifically provided for in Chapter 115.
- (3) Approval to construct shall become invalid if the source has not commenced construction within eighteen (18) months after receipt of such approval or if construction is discontinued for a period of eighteen (18) months or more. The Department may extend this time period upon a satisfactory showing that an extension is justified, but may condition such extension upon a review of either the control technology analysis or the ambient air quality standards analysis, or both.
- (4) The licensee shall establish and maintain a continuing program of best management practices for suppression of fugitive particulate matter during any period of construction, reconstruction, or operation which may result in fugitive dust, and shall submit a description of the program to the Department upon request.
- (5) The licensee shall pay the annual air emission license fee to the Department, calculated pursuant to Title 38 M.R.S.A. §353.

- (6) The license does not convey any property rights of any sort, or any exclusive privilege.
- (7) The licensee shall maintain and operate all emission units and air pollution systems required by the air emission license in a manner consistent with good air pollution control practice for minimizing emissions.
- (8) The licensee shall maintain sufficient records to accurately document compliance with emission standards and license conditions and shall maintain such records for a minimum of six (6) years. The records shall be submitted to the Department upon written request.
- (9) The licensee shall comply with all terms and conditions of the air emission license. The filing of an appeal by the licensee, the notification of planned changes or anticipated noncompliance by the licensee, or the filing of an application by the licensee for a renewal of a license or amendment shall not stay any condition of the license.
- (10) The licensee may not use as a defense in an enforcement action that the disruption, cessation, or reduction of licensed operations would have been necessary in order to maintain compliance with the conditions of the air emission license.
- (11) In accordance with the Department's air emission compliance test protocol and 40 CFR Part 60 or other method approved or required by the Department, the licensee shall:
  - (i) perform stack testing to demonstrate compliance with the applicable emission standards under circumstances representative of the facility's normal process and operating conditions:
    - a. within sixty (60) calendar days of receipt of a notification to test from the Department or EPA, if visible emissions, equipment operating parameters, staff inspection, air monitoring or other cause indicate to the Department that equipment may be operating out of compliance with emission standards or license conditions; or
    - b. pursuant to any other requirement of this license to perform stack testing.
  - (ii) install or make provisions to install test ports that meet the criteria of 40 CFR Part 60, Appendix A, and test platforms, if necessary, and other accommodations necessary to allow emission testing; and
  - (iii) submit a written report to the Department within thirty (30) days from date of test completion.

- (12) If the results of a stack test performed under circumstances representative of the facility's normal process and operating conditions indicate emissions in excess of the applicable standards, then:
- (i) within thirty (30) days following receipt of such test results, the licensee shall re-test the non-complying emission source under circumstances representative of the facility's normal process and operating conditions and in accordance with the Department's air emission compliance test protocol and 40 CFR Part 60 or other method approved or required by the Department; and
  - (ii) the days of violation shall be presumed to include the date of stack test and each and every day of operation thereafter until compliance is demonstrated under normal and representative process and operating conditions, except to the extent that the facility can prove to the satisfaction of the Department that there were intervening days during which no violation occurred or that the violation was not continuing in nature; and
  - (iii) the licensee may, upon the approval of the Department following the successful demonstration of compliance at alternative load conditions, operate under such alternative load conditions on an interim basis prior to a demonstration of compliance under normal and representative process and operating conditions.
- (13) Notwithstanding any other provisions in the State Implementation Plan approved by the EPA or Section 114(a) of the CAA, any credible evidence may be used for the purpose of establishing whether a person has violated or is in violation of any statute, regulation, or Part 70 license requirement.
- (14) The licensee shall maintain records of malfunctions, failures, downtime, and any other similar change in operation of air pollution control systems or the emissions unit itself that would affect emission and that is not consistent with the terms and conditions of the air emission license. The licensee shall notify the Department within two (2) days or the next state working day, whichever is later, of such occasions where such changes result in an increase of emissions. The licensee shall report all excess emissions in the units of the applicable emission limitation.
- (15) Upon written request from the Department, the licensee shall establish and maintain such records, make such reports, install, use and maintain such monitoring equipment, sample such emissions (in accordance with such methods, at such locations, at such intervals, and in such a manner as the Department shall prescribe), and provide other information as the Department may reasonably require to determine the licensee's compliance status.

- (16) Emissions from each of the make-up air heaters shall not exceed the following:

<u>Pollutant</u>	<u>lb/MMBtu</u>	<u>lb/hr</u>
PM	0.12	0.01
PM <sub>10</sub>	0.12	0.01
SO <sub>2</sub>	-	0.01
NO <sub>x</sub>	-	0.22
CO	-	0.03
VOC	-	0.01

- (17) Emissions from the Preheat Oven shall not exceed the following:

<u>Pollutant</u>	<u>lb/MMBtu</u>	<u>lb/hr</u>
PM	0.12	0.02
PM <sub>10</sub>	0.12	0.02
SO <sub>2</sub>	-	0.04
NO <sub>x</sub>	-	0.42
CO	-	0.11
VOC	-	0.01

- (18) Emissions from the Cure Oven shall not exceed the following:

<u>Pollutant</u>	<u>lb/MMBtu</u>	<u>lb/hr</u>
PM	0.12	0.02
PM <sub>10</sub>	0.12	0.02
SO <sub>2</sub>	-	0.04
NO <sub>x</sub>	-	0.42
CO	-	0.11
VOC	-	0.01

- (19) Process Source VOC Emissions:

The VOC emissions from the solvents, coatings, and paints emitted from the spray booth and degreasing units shall be calculated monthly and on a 12-month rolling total basis, to ensure compliance with the 9.9 ton per year facility-wide VOC emission limit.

(20) **Parts Washer**

The parts washers are subject to the operational and record keeping requirements of MEDEP Chapter 130 which include, but are not limited to, the following:

- A. Fisher shall keep records of the amount of solvent added to each parts washer.
- B. Fisher shall attach a permanent conspicuous label to each unit summarizing the following operational standards of Chapter 130:

- 1. Equip each cold cleaning degreaser with a cover that is easily operated with one hand if:
  - a.the solvent vapor pressure is greater than 15 millimeters of mercury measured at 100 °F by ASTM D323-89; or,
  - b.the solvent is agitated; or,
  - c.the solvent is heated.
- 2. Close the covers (if required by (1) above) on all solvent degreasing tanks when the tanks are not in use;
- 3. Drain the cleaned parts for at least fifteen (15) seconds or until dripping stops;
- 4. If used, supply a solvent spray that is a solid fluid stream (not a fine, atomized or shower-type spray) at a pressure that does not exceed ten (10) pounds per square inch gauge pressure (psig);
- 5. Do not degrease porous or absorbent materials, such as cloth, leather, wood or rope;
- 6. Minimize drafts to less than 40 meters/minute;
- 7. Refrain from operating the cold cleaning degreaser upon the occurrence of any visible solvent leak until such leak is repaired; and
- 8. Do not use any halogenated solvents in the degreasing tanks.

- (21) The 8 stage wash system with a 2.3 MMBtu/hr propane fired heater shall operate with low concentration chemical cleaning solutions. Fisher shall maintain monthly records of amount of chemicals used in the wash tanks and track any VOC emissions on a monthly basis, to ensure compliance with the 9.9 tpy facility-wide VOC limit.

(22) **Facility Fuel Cap:**

Fisher shall not exceed 435,000 gallons per year, based on a 12-month rolling total, of propane fuel to be used in the make-up air heaters, the preheat oven, wash system, and the cure oven. Fisher shall maintain monthly fuel use records to document compliance with this limit.

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)                    **DEPARTMENTAL**  
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(23)    Visible Emission Limits:

Visible emissions from each of the make-up air heaters, the preheat oven, and the cure oven shall not exceed an opacity of 20% on a six (6) minute block average basis for more than one (1) six (6) minute block averages in a 1-hour period.

(24)    **General Process Sources**

Visible emissions from any general process source shall not exceed an opacity of 20% on a six (6) minute block average basis, except for no more than one (1) six (6) minute block average in a 1-hour period.

(25)    Fisher shall pay the annual air emission license fee by July 30<sup>th</sup> of each year. Pursuant to Title 38-353-A, failure to pay this annual fee in the stated timeframe is sufficient grounds for revocation of the license under section 341-D, subsection 3.

(26)    The term of this order shall be for five (5) years from the signature date below.

DONE AND DATED IN AUGUSTA, MAINE THIS                    DAY OF                    2003.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: \_\_\_\_\_  
                    DAWN R. GALLAHGER, COMMISSIONER

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: May 15, 2003

Date of application acceptance: May 29, 2003

Date filed with Board of Environmental Protection: \_\_\_\_\_

This order prepared by Edwin Cousins, Bureau of Air Quality